Anderson Municipal Light & Power
Electric Service Quality Rulemaking
Data Request

Reliability:

The area of reliability will include the exanimation of sustained outages, momentary outages, restoration of service following a sustained outage and power quality.

I. Is your utility participating in any EPRI (or other organizations) research projects relating to reliability or other service quality issues? If yes, please describe the project(s) you are involved in and how it relates to reliability issues addressed in this section of the data request.

No.

Service Interruption and Outages

Sustained Outages:

I. How does your utility identify an outage? At what point does your utility consider an outage a "sustained" outage versus a "momentary" outage?

An outage is identified by one or more customers reporting a loss of electricity or by data supplied by the SCADA system. An outage is considered "sustained interruption" when the outage is longer than two (2) minutes, an outage of less than two (2) minutes in duration is considered a "momentary" outage.

2. Please describe the response process once an outage is identified. Has your response process changed in any way over the past 5 years? Please explain those changes. What follow-up is done after service has been restored to determine that an individual customer, once again, has electric service?

Field personnel are dispatched to the area affected by the outage. The cause of the outage is determined and evaluated for the necessary repair and additional labor needed to restore service. The area affected is also evaluated for all alternative routes to restore power to as many customers as possible. When more than one department is involved in an outage (example: substation, line, engineering, dispatchers, etc.) all personnel have specific jobs to perform. In all instances the Duty Supervisor or the Duty Foreperson evaluates the problem for increased response time and reduce the duration of the outage.

In the case of a widespread outage, Office Staff, Supervisors, Engineering will participate in the restoration of customer service by reviewing the outage area for repair and personnel needed, informing the customer of the problem, on the possible length of outage, documenting of outage reports, as to the area in question to reduce redundancy of customers calling.

3. Under what Conditions or circumstances does your utility report an outage to the Commission? Since January 2001, how often have you reported an outage to the commission? How often did you provide updates on the outage and the restoration of service?

Anderson Municipal Light & Power (AML&P) has not had a major outage since the ice storm in March 1991. The last outage was September 20, 2002 and affected less than 5% of our system. It is my understanding that AML&P has complied with the IURC guidelines in the past.

4. Outages resulting from major weather events can somewhat be anticipated, please describe the weather event outage response from the time a weather situation is known or anticipated to exist through the time the last customer is brought back online. Please describe any facilities and/or procedures that are specifically used in anticipation or during a major weather event in case of widespread outages. Are the facilities and/or procedures different depending on the type of weather event, for example tornado conditions versus a

potential ice storm? Are there non-weather related outage situations when these facilities and/or procedures are used?

Please refer to guidelines described in Question 2.

5. What other government (local, state, federal) agencies or organizations must your utility interact or communicate with during outage situations? Specifically, are there other agencies or organizations that your utility is required by law or regulation to report to or communicate with during outage situations?

   Madison County Emergency Response Center, local fire and police departments, local broadcast media are contacted during severe outages.

6. Are there other agencies, organizations or companies that your utility typically interacts or communicates with during critical outage situations? Please describe the circumstances and types of interactions or communications that occur.

   Refer to the answer to question #5.

7. What is the policy concerning the use of service crews from other utilities? Has the availability of crews or the willingness of other utilities to make crews available become more limited in recent years'? Are non-utility crews being used or considered more routinely than requesting crews from neighboring utilities?

   Other utility personnel are used at the discretion of AML&P management, typically when AML&P service crews cannot restore power in a reasonable amount of time. AML&P participates in Indiana Municipal Electric Association (IMEA) Mutual Aid Program. When available, these utilities have been able to send personnel upon request. Other utility crews such as private contract crews are also used.

8. What type of information does your utility typically gather/report/analyze regarding sustained outages? How is this information used in the utility?

   Information such as cause, circuit, protective devices, transformer size, area, and number of customers affected is collected and reviewed. This information is used to determine ways to improve overall service reliability and justify system improvement projects.

9. Does the utility attempt to quantify the financial costs of outages to customers and local communities? If so, please explain how this is done.

   No.

Momentary Outages:

1. Does your utility identify and track momentary outages? How is a momentary outage identified and/or defined?

   A momentary outage is identified by a customer's report or by data obtained from SCADA systems. A momentary outage is defined as an outage, which lasts less than two (2) minutes.

2. What type of information does your utility typically gather/report/analyze regarding momentary outages? How is this information used in the utility?

   Information regarding cause, circuit, type of customer affected, landscape, age of equipment, and frequency are collected and reviewed.

3. Other than the duration of the outage, are there operational or characteristic differences in a sustained outage versus a momentary outage?

Most of the momentary outages on the AML&P system are related to breaker operations or reclosers, which restore service automatically. Many times it is difficult to identify the cause. However AML&P policy is to patrol each circuit to try and identify the problems.

Performance Measures and Statistics

1. Typical reliability performance statistics include SAIDI, CAIDI, SAIFI, etc. Does your utility routinely calculate these statistics? How is each of the variables in each of the calculations defined? Are these statistics calculated as part of your outage management system or through some other means?

   No. However, outage information has undergone some changes between 2002 and 2003. Prior to 2003 we entered all calls form customers into a database. When the customer called the following was recorded: cause, what action was taken, and when service was restored. This information could then be accessed later but fell short because customers that were affected and did not call did not have a record created. This affected sustained outage only.

   Momentary outage are recorded by the substation department and combined with records we have of how many customers are connected to a circuit. The accuracy of the customer counts will increase due to the project in2002 that associated customer to transformers.

   In 2002 we upgraded our PORCHE outage reporting system that electronically answers customer calls. The system uses information from our Graphic Information System (GIS) to aid us in finding customers based on their phone number. When a customer calls they are found in our database using caller ID and before the call is finished we have their address information displayed on our outage screen. The system is able to answer up to 24 callers per minute. Once power is restored, the PORCHE system calls back the customers to verify that power has been restored. If the caller indicates they are still out of service, the system brings it to the attention of the operator so crews can further investigate the problem.

   In 2003 a new system for keeping historic outage information will be installed. With the creation of records that link customers to transformers we will be able to better report all customers affected by an outage. The way the system works is, when a customer calls in, an incident is created indicating the start time of the outage. Other customers that call in are associated with the same incident. When the service is restored, crews call in the deice that tripped as well as the cause. The incident is assigned a problem code and a restored time. The system generates a record for every customer downstream of the device that opened so even if a customer didn't call, a record is created showing an outage occurred, when power went out, and when it was restored.

   Because there is a relationship to the GIS system, outage data can be used to produce maps reflecting outage data. Maps can be created showing where the most calls due to tree, traffic, animal, and age were to better aid decisions making.

2. Are there other reliability statistics your utility calculates? What are they? How are they calculated? How are the variables used to calculate them defined? Are these statistics calculated as part of your outage management system or through some other means?

   No.

3. Does your outage management system calculate other reliability statistics that your utility does not routinely review? What are these statistics? How are they calculated? How are the variables used to calculate them defined?

   No.

4. Reliability statistics are often calculated excluding storms or other major outage events. What are the advantages and disadvantages to excluding storms or other events? Do reliability statistics typically

calculated by your utility include or exclude storms or major outage events? If these events are excluded, how do you determine when to exclude an outage event? How do you define the different levels of outage events?

AML&P maintains records of all customer-reported or SCADA events. We also collect and evaluate storm related outage, tree problems, age of system affected, other causes and length of outage.

5. How do service territory differences (e.g., rural versus metropolitan, high industrial concentration versus more residential) affect the calculation of reliability statistics? What statistic, if any, is most indifferent to the service area characteristics, in other words what statistic(s) would most likely allow relevant comparisons among a wide variety of utility types.

   With the exception of only a few miles AML&P service territory is less vulnerable to rural area outages. However, AML&P has a larger area of tree related service area that we monitor on a yearly basis for increased outages and maintenance. Tree trimming is done on a yearly basis in some areas of the system.

6. Can the calculation of reliability indices be standardized among Indiana utilities? Please explain how that might be done.

   Yes. A basic standardization is possible as long as the Commission gives consideration to the smaller utilities that lack the staff for tracking reliability statistics.

7. Should utility size or other characteristics be taken into consideration when evaluating the reliability statistics from a company?

   Yes.

8. Are performance evaluations and the resulting compensation for any individual, groups of individuals of divisions of the utility tied to reliability statistic results? Please explain what reliability statistics are used and who is evaluated based on the results of those statistics. How are the acceptable levels of performance set and what are those levels?

   No. However AML&P staff evaluated storm related outages and procedures. If a problem occurs, this is brought to the attention of management and a solution is implemented immediately.

Worst Circuits:

In order to prevent utilities from having "pockets" of poor service reliability, some state commissions require utilities to report the top 10-25 worst circuits and then address those problem areas.

I. Are there areas of your utility's service territory that are more prone to outages, either sustained or momentary, or other reliability problems, such as power quality, than others? How does your utility address this type of problem?

   Yes tree related areas. Circuits in areas of dense trees will be more prone to tree and animal related outages. AML&P evaluates system reliability and uses this data to develop capital improvement projects.

2. What are the advantages of identifying the top worse performing circuits of a utility?

   To provide information as to the cause and develop a maintenance or capital improvement plan to monitor system outages.

3. What are the disadvantages identifying the top worst performing circuits of a utility?

   The disadvantages of identifying the worst performing circuits of a utility would be if the circuit having the most problems fall within the written guidelines provided by the Commissioner or IEEE. This would send a

message to the customer that they are being served by the worst part of the system when in reality they are not.

Power Quality:

I. Based on your utility's interaction with its customers, is power quality an important concern of your customers? What aspects of power quality are of particular concern (voltage sag, high or low voltage, voltage spikes and transients, flickers, surges, harmonics, other)? Please explain. Are there typical types of customers or customer classes that voice a greater concern about power quality than others? Please explain. How has your utility addressed these concerns?

Power quality in the past several years has become an increasing concern for the utilities. As our customers in industry, commercial, and residential migrate toward digital electronic equipment, the need for better power quality monitoring is essential. It is AML&P's position that utility should not be held completely responsible for power quality issues. However specific guidelines should be established for both the Utility and the consumers.

2. Does your utility have any program or plan in place specifically addressing power quality issues? Please explain. How have these programs or plans changed over the last five years?

Yes. Technicians are provided with current equipment and training to diagnose and solve power quality problems, whether those problems originate inside or outside the customer's facility. It the problem cannot be solved using inside staff, then we use qualified consultants and equipment to correct the problem.

3. Does your utility collect/track any type of power quality related data? If so, what data is collected and how is it used by the utility?

Yes. System voltage loading, and VAR information are monitored and reviewed from each substation with AML&P's SCADA system.

4. Is power quality data used as a performance measure for compensation for any person(s), groups and/or divisions in your utility? Please explain what data is used and why.

No.

Leading Indicators:

While it's important to restore service as quickly as possible following an outage, when practical, it is better to prevent the outage from occurring.

I. What are good leading indicators of possible service outages? Does your utility routinely monitor specific aspects of the electric operations or system with the goal of preventing service outages? What do you monitor and why?

Routine line inspection, tree trimming, transformer testing, and evaluation of facilities are done and have proven to be a good factor for reliability.

2. Does your utility have a routine inspection and maintenance plan/procedure in place designed to prevent the possibility of service outages? Please explain the plan/procedure.

AML&P regularly inspects and performs maintenance on substation equipment consistent with manufacturer's recommendations and industry standards. Such tests include transformer oil and gas analysis, breaker maintenance, Doble testing, reclosurer and infrared test of utility, industrial, and commercial facilities. Poles were inspected and treated in 1992, 1993, and this project is to be revisited in 2004 and 2005.

3. Has this plan/procedure changed in the past five (5) years? Please explain the changes and why they were made.

   Yes, this utility employs new techniques and technologies as they become available. An example is the use of infrared image inspection.

4. Has your utility made any study or analysis as to how successful your inspection and maintenance plan/procedure has been in preventing service outage? Please explain.

   System outage information is reviewed on an annual basis. The present year outages are evaluated and compared to previous years in order to monitor and evaluate the problems to improve reliability. Past practice has shown, for example, that a good tree preventative maintenance program reduced the percent of outages each year.

5. Does your utility have a vegetation management plan/procedure in place designed to prevent the possibility of service outages? Please explain the plan/procedure.

   Yes AML&P has a scheduled four-year line clearing cycle. Tree growth vegetation control using chemical was introduced last year in several frequent tree problem areas.

6. Has this plan/procedure changed in the past five (5) years? Please explain the changes and why they were made.

   No.

7. Has you utility made any study or analysis as to how successful your vegetation management plan/procedure has been in preventing service outage? Please explain.

   Yes, records have shown that a properly implemented tree program has reduced outages and lowered maintenance costs.

8. Does your utility identify/track the age of equipment used in the production and delivery of electricity to the customer? Why or why not?

   Yes, AML&P records age of poles, transformers and circuits. AML&P uses this information to evaluate necessary repairs or upgrades to the system.

9. Could equipment age be used as a leading indicator of potential service outages? Would this be an effective indicator of potential service outages? Please explain.

   Equipment such as transformers, breakers, pole treatments, underground primary and secondary wire, etc. can be identified and tracked for reliability issues.

10. Does your utility track equipment used in the production and delivery of electricity to the customer to identify equipment that tends to have a premature or unpredicted failure rate or degraded performance level? Why or why not?

    Yes. See above information in questions 7, 8, and 9.

11. Could the identification of equipment with premature or unpredicted failure rate or degraded performance level be used as a leading indicator of potential service outages? Would this be an effective indicator of potential service outages? Please explain.

    Yes.

12. Are there any other methods (e.g., infra-red inspections or radio frequency inspections) you carry out to help maintain and/or improve system reliability? Please describe the methods you use.

AML&P improves reliability with periodic load studies, relay tests, fuse coordination, and infrared inspections. Over the past several years AML&P has been in the process of upgrading our substation transmission and distribution relays.

Setting Performance Standards:

1. Does your utility set any type of performance standards relating to service reliability and quality as a method of determining employee and/or division performance for compensation purposes? What are these standards? How are they measured? How do they affect the overall compensation for a(n) employee and/or division?

No

2. Could similar standards be set by the Commission to help evaluate and compare the service quality of Indiana utilities? Please explain why or why not.

It is my opinion that this may be difficult to apply one set of standards to all utilities. A better approach might be to group similar size and types - example (rural to urban). However this may still have disadvantages.

3. If these standards are not appropriate to help evaluate and compare the service quality of Indiana utilities, please suggest some standards that would be appropriate.

Standards that are now in place should be reviewed and modifications made based on size, location, and area served, etc. before any new guidelines are implemented.

4. To date there has been little or no use of I. C. 8-1-2.5 by utilities to propose performance based rates that would tie utility incentives/penalties to reliability and other measurable performance criteria. Is there a problem with how I. C. 8-1-2.5 is structured that makes it inappropriate or ineffective as a vehicle for performance: based rates? Please explain. From your perspective (utility, customer group, other) what are the pros and cons of performance based rates?

Safety:

I. Is your utility participating in any EPRI (or other organizations) research projects relating to Safety? It yes, please describe the project(s) you are involved in and how it relates to safety issues addressed in this section of the data request.

No.

2. What actions to ensure public safety are taken, both by the utility and other emergency resources, when a live power line has come down? Please explain the activities from the time a live power line is reported down until it has been repaired or rendered safe.

AML&P staff provides education programs, live line demonstrations, and safety information to civic groups in the hazards of downed power lines on a regular basis. Also we have informed the media of those events. Such an event was done in December of 2002.

AML&P takes exception to "ensure" public safety. However, we try to secure the area as much as possible. Crews are dispatched, area is secured by emergency equipment when the situation arises, fire, police, and emergency management have been notified for assistance when needed.

3. In situations where live power lines may be down in multiple locations, how is public safety ensured?

In the same manner as explained above only with additional personnel.

4. In critical weather situations where widespread areas may experience outages or down power lines, is there any central coordination (beyond such individual utility) of the restoration of service and the repair of down lines? Please explain who does the coordination and what organizations are involved.

   No. Usually the undivided utility is the central coordinator for various reasons such as utilization and coordination of personnel and being familiar with the utility area.

5. What could be done to improve the public awareness of the hazards that may exist as a result of weather related power outage? How does your utility inform customers of these types of hazards?

   Frequent communications with the general public using telephone communications, written media, or radio announcements.

6. What is the most typical accident involving utility facilities that happens to utility personnel and to non-utility/customers/the general public? What has your utility done to help try and alleviate these types of accidents?

   AML&P accident records involving personnel range from vehicle accidents, back, leg, or arm injuries usually due to sprains. Vehicle accidents are usually moving driver-related and not stationary. Sprains are usually the result of poor techniques in performing the task.

7. What is the current average term of employment for service and line crew personnel? Does your utility provide on-going safety training for your line and service crews? Please explain the types of training these crews receive.

   The average term of employment is 17.1 years. AML&P participates in IMEA training courses and safety classes that are approved by the Department of Labor.

8. Commission rules currently require utilities to report accidents resulting in death. Do you think this rule provides useful information to the Commission? Please explain. Do you have any recommended changes that would make this rule more useful? Please explain.

   Yes, this rule gives useful information to the Commission, the utility, and other governing bodies for minimizing the likelihood of future fatalities.

9. What other organizations or agencies must you report to when there has been an accident, injury or fatality? Please explain what must be reported, under what circumstances and in what time frame from when the incident occurred.

   IOSHA, Insurance, Personnel, Human Relations, Department of Labor, and related governing bodies must be notified in the event of a fatality or if three or more people are hospitalized.

10. The Commission is aware that in preparation for Y2K utilities developed emergency operating plans (EOP). Does your utility continue to maintain and update an emergency operating plan?

    Yes.

Customer Service:

1. Is your utility participating in any EPRI (or other organizations) research projects relating to customer service? If yes, please describe the project(s) you are involved in and how it relates to customer service issues addressed in this section of the data request.

   No.

2. Please describe your utility's customer service philosophy and how your utility implements this philosophy.

   AML&P's customer service philosophy is best described with the Mission Statement and Vision Statement. The Mission Statement is: To be recognized by the Community for excellence and integrity in providing long-term customer satisfaction and reliable service through employee dedication and quality leadership of management resources.

   The Vision Statement is: As a community owned and locally controlled public power utility, we provide low-cost and reliable electric service. We are dedicated to our residential, commercial, and industrial, customers. Through constant educational investment of our valued employees, we provide timely, safe, high-quality, dependable, and professional service with honest, integrity, and pride. Our customers and community can count on us.

3. How many employees are directly engaged in customer service types of activities and where do they fit in the utility's overall organizational structure? An organizational diagram maybe useful in responding to this question.

   In the Utility Office there are six (6) persons directly assigned to customer service, six (6) cashiers and five (5) employees in the credit area. Those employees in the utility office report to three (3) supervisors and then to the Utility Manager. Through the Engineering, and Operations Departments, there are three (3) employees each reporting to the Office Supervisor. The Meter Department has one (1) employee who reports to the Meter Supervisor.

4. Assuming there are a variety of activities that can be considered "customer service" please describe the different types of activities your utility classifies as "customer service" and how many employees are engaged in each activity.

   Most direct dealings with customers occur at the Utility Office. Customers may sign for electric service, pay electric bills, have questions answered, and request utility services.

5. Please provide a brief description of the qualifications required by employees engaged in the various customer service activities described in response to the previous question. Have these requirements and protocols changed over the last five years? Please explain.

   Employees must be high school graduates, be able to operate various computer applications, and interact with customers in a friendly, professional manner.

   These requirements have not changed in several years. Certain management/supervisory positions may require more qualifications than others.

6. Please describe any equipment and/or facilities that are specifically designed to help the utility to communicate with its customers and to enhance customer service.

   AML&P, through Indiana Municipal Power Agency (IMPA), publishes a quarterly newsletter for all customers. AML&P receives feedback through surveys and improves service based upon these responses whenever possible. Also AML&P has a website for customer questions or complaints.

7. How does your utility evaluate: the quality and performance of your customer service activities.

   AML&P has done three studies in the past few years. This information is used to improve the service and increase reliability in the affected areas or departments.

8. Is the compensation of employees, groups of employees or divisions tied to customer service performance? Please explain how this is done and whom this process affects.

No.

9. What methods or statistics are used to evaluate customer service performance? Please provide a description of the methods or statistics used.

   See questions 6 and 7 above.